

REMARKS

After entry of this amendment, claims 1-7, 9-21, 23-24, and 28-30 are pending in the application. Claims 8, 22, 25, and 26 have been cancelled without prejudice. Claims 1, 3, 4, 7, 9-19, 21, 23, 24, 27 and 28 have been herein amended to more particularly point out and distinctly claim Applicant's invention. New claims 29 and 30 have been added. Reconsideration is respectfully requested.

Claims 1-28 stand rejected under 35 U.S.C. § 112, second paragraph. The Examiner contends the term "multi-valve manifold" is confusing, and suggests that it be replaced with the term "manifold". Applicant has adopted the Examiner's suggestion by deleting each occurrence of the term "multi-valve" throughout the claims. The Examiner also contends that claim 1 lines 17-18, and claim 19, lines 16-17, claiming "a control program operably connected to ... valve ... for controlling actuation", and claim 10 lines 16-19, which describes "controlling actuation of the at least two valves ... with a control program operably connected to the at least two valves", are confusing. Claims 1 and 19 have been amended to describe the control program as being executable by a control device. Claim 10 has been amended to delete the term "control program" from the claim. Applicant accordingly requests that the instant rejection be reconsidered and withdrawn.

Claims 1 and 3-5, 23 and 24 stand rejected under 35 U.S.C. § 103 as being unpatentable over Stephenson et al. (U.S. 6,467,264) in view of Rector et al. (U.S. 5,546,847), Yeaple (Franklin D. Yeaple, Fluid Power Design Handbook, 1995), and Applicant's admitted prior art. Claim 1 has been amended to more particularly point out and distinctly claim that the control program is executable by a control device and is configured to calculate a pressure in the at least one fluid chamber required for moving the piston a selected distance from a predetermined position within the housing based on a pressure measured by the pressure sensor and the location of the piston as measured by the position sensor. Claim 1 has been further amended to describe the control program as being configured for controlling the proportion valve to obtain the calculated pressure within the fluid chamber of the cylinder to be controlled. In contrast, none of the cited references, taken individually

or in any permissible combination, teach or suggest the claimed combination of elements as amended. Applicant accordingly requests that the instant rejection be reconsidered and withdrawn.

Claims 1-8, 10-17 and 19-28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Stephenson et al. (U.S. 6,467,264) in view of Morita et al. (U.S. 5,431,086), Rector et al. (U.S. 5,546,847), Yeaple (Franklin D. Yeaple, Fluid Power Design Handbook, 1995), and Applicant's admitted prior art. Claims 1 and 19 have been amended to more particularly point out and distinctly claim that the control program executable by the control device is configured to calculate a pressure in the at least one fluid chamber required for moving the piston a selected distance from a predetermined position with the housing based on a pressure measured by the pressure sensor and the location of the piston as determined by the position sensor, and for controlling the electrically actuated proportional valve to obtain the calculated pressure within the fluid chamber of the cylinder to be controlled. Claim 10 has been amended to more particularly point out and distinctly claim that the method for controlling the fluid operated cylinder includes the steps of selecting a distance to move the piston within the cylinder, calculating a pressure within the fluid chamber required to move the piston the selected distance, and adjusting the pressure within the fluid chamber to correspond to the calculated pressure by controlling fluid flow into and out of the chamber by means of the proportional flow valve. In contrast, none of the cited references, taken either individually or in any permissible combination, teach or suggest the claimed combination of element as amended. The Examiner contends that Morita et al. discloses a controller operable for calculating a required pressure to move the piston a desired distance from its midpoint position. (See the detailed Office Action of May 30, 2006, page 6, second paragraph). The Examiner, however, appears to be mistaken. Nowhere does Morita et al. describe calculating a pressure within the cylinder required to move the piston a desired distance. Indeed, Morita et al. only describes applying a predetermined fixed pressure to the fluid chamber for operating the piston. Morita et al. describes a method for decelerating the piston prior to reaching its end of travel to minimize the

shock caused by the piston contacting the cylinder head (see Morita et al., column 7, lines 40-68; column 8 lines 1-68; and column 9, lines 1-1-68). Movement of the piston is accomplished by applying a fixed constant pressure stream of air at 0.49 MPa to one side of the piston (step S4, Fig. 5; column 8, lines 3-6). Nowhere does Morita et al. describe this pressure as being calculated to move the piston a desired distance. The pressure used to move the piston never changes. It is always the same. Once the piston passes a particular location along its stroke, as determined by the position sensor (38,40) (Fig. 3), a second stream of air supplied at a lower fixed constant pressure of 0.29 MPa is supplied to the opposite side of the piston to decelerate the piston as it approaches its end of travel (step s9, Fig. 6; column 8, lines 44-47). Once again, this is not a calculated pressure required to move the piston a desired distance. This pressure never changes and is always the same. Once the piston reaches the end of its stroke, the 0.49 MPa air supply is turned off (step s14). Movement of the piston in Morita et al. is clearly not controlled by varying the pressure applied to the piston, but rather by simply turning on and off the air supply being delivered at a constant fixed pressure of 0.49 MPa. Indeed, Morita et al. does not describe any pressure calculations being performed. Applicant accordingly requests that the instant rejection be reconsidered and withdrawn.

Claims 9 and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Stephenson et al. (U.S. 6,467,264) in view of Rector et al. (U.S. 5,546,847) and Yeaple (Franklin D. Yeaple, Fluid Power Design Handbook, 1995), as applied by the Examiner to claim 1, and over Stephenson et al. (U.S. 6,467,264) in view of Morita et al. (U.S. 5,431,086), Rector et al. (U.S. 5,546,847) and Yeaple (Franklin D. Yeaple, Fluid Power Design Handbook, 1995), as applied by the Examiner to claims 1 and 10, and further in view of Neilson et al. (U.S. 3,099,289). Claim 9 and 18 depend directly from claims 1 and 10, respectively, and as such, are allowable for the same reason their respective base claims are allowable. Applicant accordingly requests that the instant rejection be reconsidered and withdrawn.

It is respectfully submitted that this Amendment traverses and overcomes all of the Examiner's objections and rejections to the application as

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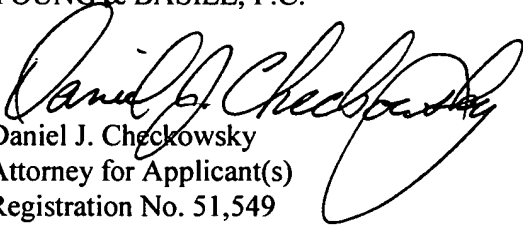
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originally filed. It is further submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the application as amended is requested. It is respectfully submitted that this Amendment places the application in suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

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